South Carolina State Parks

ARCHNEWS

South Carolina State Parks Archaeology Newsletter

The opinions expressed in this newsletter are those of the authors and do not necessarily reflect the positions of SCPRT.

VOLUME 2 NO 4 SUMMER 2011

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Upcoming Events

ASSC Charleston Chapter Movie Night

Charles Towne Landing Visitor Center

Wed. September 14, 2011

6:00 PM

Watch an archaeology themed movie with the chapter!

Upcoming Events

Piecing Together the Past with Archaeology

Charles Towne Landing State Historic Site

October 8, 2011

10:00 AM - 4:00 PM

For details visit the program website.

Charles Towne Landing Archaeology Update

In May and June we had the pleasure to host the College of Charleston's Archaeological Field School. The field school was directed by Dr. Barbara Borg, Professor of Anthropology at CofC, and Charleston Museum archaeologists Martha Zierden and Ron Anthony. A total of 16 students and two volunteers participated in excavations adjacent to the Miller Site. The participants were divided into six teams of three people and the teams were rotated between field excavation, water screening, and lab work.

Field work entailed excavating approximately 100 shovel tests spaced at 30 foot intervals. Following completion of the shovel tests, students made cursory observation of where artifacts were most densely concentrated. A total of 10 formal five by five foot excavation units were placed in these areas. Approximately 10 to 12 features were uncovered; of these at least seven appear to be post holes. The exciting thing about the post holes is that they are clearly from at least two different structures.

A water screening system was set up off site. At the water screening station soil was washed through 1/8 inch mesh screen and then window screen in order to collect small fish and animal bone as well small glass trade beads.

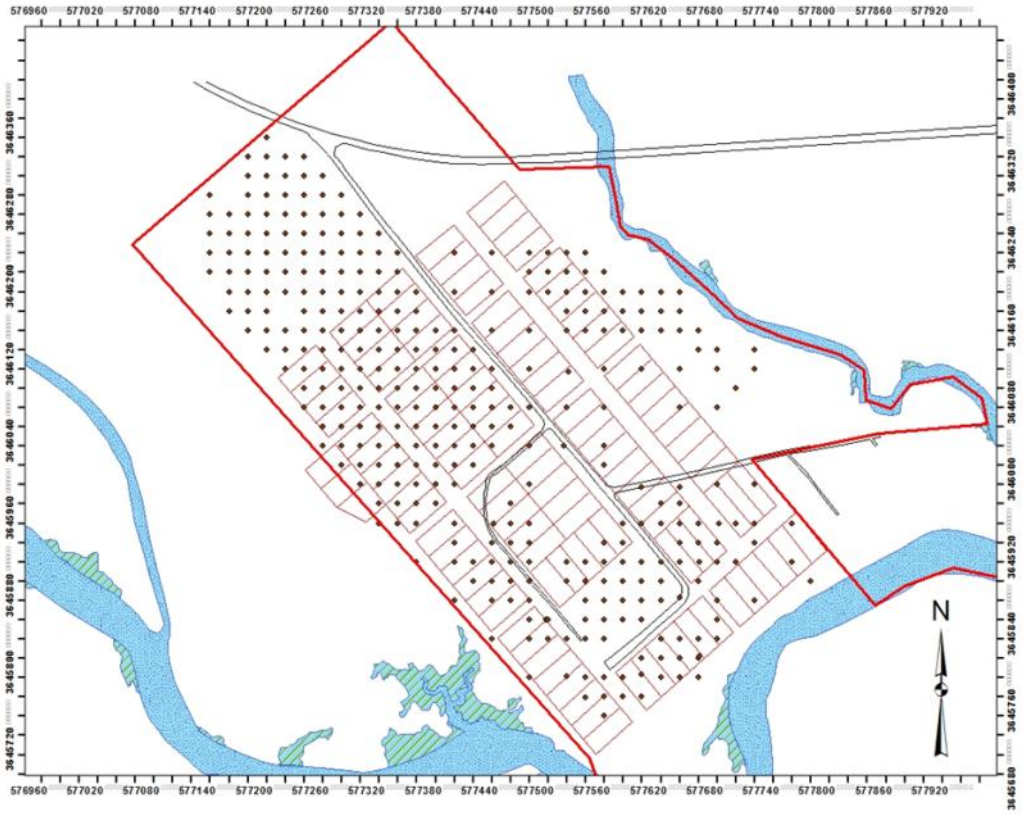
In the lab students learned to wash, catalog, and identify the various artifacts that were recovered from the field. Artifacts recovered during the field school appear to be consistent with those recovered over the last two seasons at the Miller Site and date to approximately 1680 to 1720. Of interest is the fact that in the field school excavations artifacts seem to cluster toward the earlier end of the spectrum than at the Miller Site.

The field school laid the groundwork for exciting research in the near future. We are grateful to Dr. Borg, Ms. Zierden, Mr. Anthony and all the students for their efforts. —*CTL Staff*

Students excavating a unit

Colonial Dorchester Archaeology Update

Colonial Dorchester has been very busy conducting a rather wide ranging archaeological survey of the entire park. The purpose of the survey is to give us some better ideas about where concentrations of artifacts are clustered. The results of such a survey can be combined with Historical research, including a 1742 plat of the village, to guide us in where we want to conduct future excavations.



Map showing the location of the 20 meter interval shovel tests laid over the house lots from the 1742 plat. Each black square represents 1 shovel test.

The survey entails establishing a grid system across the park. This grid is set up as a "20 Meter" grid. Imaginary lines running north-south and east-west are drawn over the area to be surveyed. These lines are 20 meters apart. Every point at which these lines intersect, a shovel test is excavated. All of the shovel tests measure 50cm by 50cm and are excavated to a depth necessary to reach sterile (undisturbed) subsoil.

The survey has been ongoing for several years. The field work and lab work have now been completed. Several years seems like a long time, but many other tasks have been accomplished and ongoing during this period. For example, the Process of Discovery program, through which visitors can observe archaeologists working up close and personal, and ask questions of the archaeologists, has continued. Additionally, a brief look was taken at a lot which historical research has indicated may have been a tavern site. Also, new excavations are getting underway along the edge of the market place within the village boundaries.

Several high concentrations of archaeological resources have been located during this very important work. From this point forward, Phase 2 of the survey will begin. In Phase 2, we will be focusing on the concentrated areas by excavating shovel tests on 10 meter intervals. This will give even better detail on where our best resources are located. However, some formal excavations will continue and new excavations will begin in areas already revealed by our 20 Meter Survey.

Visitors are encouraged to visit Colonial Dorchester often to keep abreast of ever changing and exciting finds that are being unearthed. Call (843) 873-7475 for more information. *—CD staff*

Meet an Archaeologist

Rebecca Shepherd

While she remembers a fascination with watching archaeologists at Colonial Dorchester as a child, Rebecca Shepherd never saw herself as an archaeologist until her first anthropology course as a freshman at the College of Charleston. From that point forward, she has kept her focus on her dream and is working her way towards a career in research and public archaeology.

Rebecca making her way through a coastal swamp

She completed her degree at the College of Charleston in 2007 with a major in Anthropology and a minor in Archaeology. While a student, she attended the George Washington's Ferry Farm Field School in Fredericksburg, VA. Additionally, she completed internships at Colonial Dorchester and the Charleston Museum. Following graduation, she served as a field technician at Charles Towne Landing for one year.

She then left and gained three years of experience in Cultural Resource Management (CRM). Working primarily for New South Associates and TRC, Rebecca participated in various projects throughout the Mid-Atlantic and Southeastern U.S.

To date, her most memorable artifact was recovered at Hampton Plantation State Historic Site. It was a blue glass jewelry insert. Etched in the glass is the profile of a man in what appears to be colonial attire. While the function of the artifact remains a mystery, "it's amazing that something so tiny has the potential to tell us so many important details about the person who dropped it" says Shepherd.

When asked what now appeals to her most about archaeology, Ms. Shepherd responded "I love having an unconventional job where I can be outside, play in the dirt, and discover the past. You never really know what to expect. Every day is different and exciting. Nothing beats trailblazing through a swamp and discovering a previously unknown site on the other side". She says the greatest downsides to her job are chiggers and poison ivy, to which she is highly allergic.

As for advice to students aspiring to become archaeologists, Shepherd suggests "get as much field experience as possible. There is so much that you will learn in the field physically doing archaeology that isn't easily explained in the classroom. I would also say that a year or two of working in CRM is advisable before going to graduate school. It's tough, but fun work and if you can survive that and still love what you are doing, then you are in archaeology for the right reasons".

There is no doubt that Rebecca is in archaeology for the right reasons. Therefore, it is with great pleasure and high expectations that we welcome her to Charles Towne Landing State Historic Site as the new site archaeologist.

Stop in and say hello to Rebecca. She will be glad to update you on happenings at Charles Towne Landing. ■

Tools of the Trade

Human Bones

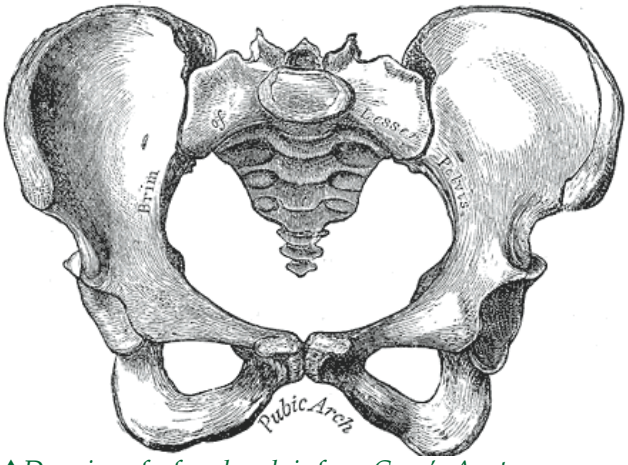
By David Jones

Human skeletal remains might accurately be considered one of an archaeologist's best friends. Human bones recovered from archaeological sites offer a wealth of information about the people that inhabited that site. For example, skeletal remains can assist in estimations of age, sex, ancestry, disease, trauma and diet. Combining human skeletal data with archaeologically recovered materials gives us a much more comprehensive view of the lifeways of a given population than either bones or artifacts alone.

Age at death can be estimated based on an analysis of certain skeletal elements. For example, long bones (arms and legs) develop in three distinct sections; the shaft and the two ends. The ends of the bones, called epiphyses, fuse to the shaft at relatively specific ages for each bone. Looking at the degree to which "epiphyseal union" has occurred can provide estimates of the age at death.

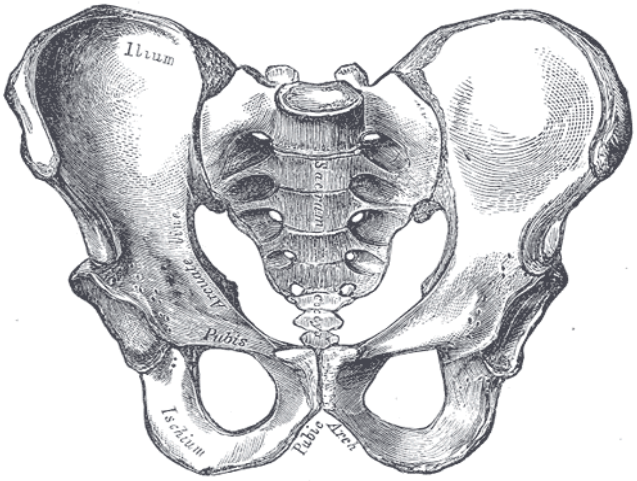
The development of teeth can also aid in age estimation, especially in the case of young children. Dental eruption is relatively consistent across populations and can provide clues to infant mortality rates in a given group. Therefore, the age at death can be used as an indicator of the overall health of that population. However, investigators should be aware that teeth can also be culturally altered. Of interest may be the dental modification piece in this month's "Around the World" (Page 6).

The sex of an individual that has reached reproductive age can be determined from skeletal remains as well. Humans exhibit a certain degree of sexual dimorphism, which is defined as anatomical differences between the two sexes of a certain species. Two parts of the human skeleton that are commonly used to estimate sex are the pelvis and the skull. The development of the female pelvis to accommodate childbirth results in a shape that differs from that of a male's. Generally, the male skull is more robust than that of the female and the chin tends to be more angular.



▲*Drawing of a female pelvis from Gray's Anatomy*

▼*Drawing of a male pelvis from Gray's Anatomy*



Cranial analysis is generally considered the best approach to estimating ancestry. While some characteristics that allude to ancestry can be readily observed on parts of the skull, regression formulae have been devised to help increase the accuracy of such endeavors. A series of very precise measurements can be taken between various points

on the skull and then plugged into a mathematical formula. The results obtained from the formula will fall within a range that generally corresponds to a certain ancestry.

A great number of diseases leave features on skeletal remains that can be readily identified. For instance, rickets often results in softening of bone, which leads to identifiable abnormalities in shape. Many infectious diseases result in thickening of bone or abnormal growth in specific skeletal elements. Knowing the diseases that were prevalent in a population, combined with other data, reveal much about the health of individuals specifically, and the population in general.

Trauma inflicted on bone can give the investigator insight into daily struggles. Healed fractures leave markers that can attest to the severity of a break. Fractures in several individuals within a given population may point to some risks associated with necessary daily activities. Wounds exacted by weapons and "defensive wounds" can often be identified in bone, indicating conflict within or between groups.

The quality of a population's diet or the consistency of an adequate diet can be ascertained through the analysis of skeletal remains. While thinning of bone is a natural part of the aging process, inadequate intake of protein can lead to abnormal thinning of bone in younger individuals. Food shortages can lead to a disruption in a child's bone development, however once a food shortage is alleviated growth will resume. X-rays of bone will show "Harris lines", which mark the disruption in growth.

One problem with analysis of human skeletal remains has always been that variation exists in almost all aspects of data available to investigators. For example, most indicators of sex have rather wide ranges. It is not unusual to observe some traditionally male characteristics on the skeleton of a female. These wide variations also exist when assessing age, diet, disease and ancestry.

Top: femur of an adult who suffered from childhood rickets

Bottom: normal adult femur

Recent advances in molecular research have made it possible to address some of the issues of wide ranges of skeletal variation. Trace amounts of DNA can now be extracted from bone long after soft tissues have seemingly decomposed. Many diseases have a genetic component. Therefore, a good number of diseases can now be determined genetically, rather than depending on the ability of a given investigator to recognize disease markers on bone. Likewise, sex and ancestry can be determined from DNA.

Today, state of the art skeletal examination is being combined with analyses of other archaeologically recovered materials. In the "Around the World" section of this newsletter, the Chicago Field Museum is conducting CT scans on sarcophagi housing extremely fragile skeletal remains. The data collected will provide researchers with information that neither the skeletal remains nor the archaeological materials alone could render. The Chicago project is an example of the many ways in which human skeletal remains can be utilized to augment information recovered through archaeology and demonstrates how all archaeologists can benefit from the information that is available in human skeletal remains. ■

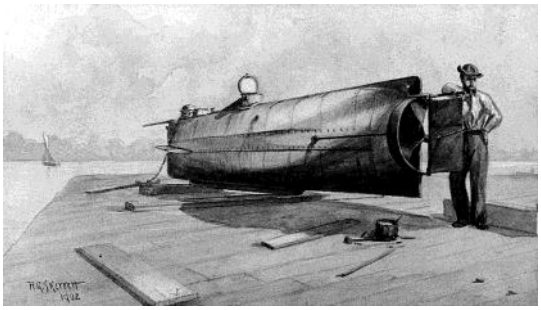
David Jones *has a masters degree in physical anthropology and is an archaeologist with SCPRT.*

Around the World

NEWS !

- Conservators at Chicago's Field Museum have begun performing CT scans on their collection of Egyptian and Peruvian mummies. According to curator James Phillips, "This project is the beginning of a major project to scan and understand all of our mummies." The CT machine, donated to the museum by a medical imaging company, can create three dimensional images of mummies inside coffins too fragile to open. Such images can help archaeologists determine the sex, age and cause of death of the individual, as well as provide information about mummification techniques and burial goods. According to the Chicago Sun Times, current results include images of a "40-year-old woman who had lower back pain," and a mummy without a torso.

- Exciting new steps in the conservation of the Confederate submarine the H.L. Hunley are being undertaken in Charleston, SC. According the Post and Courier, engineers have carefully rotated the sub into an upright position after years of resting on it's starboard side. This rotation will allow conservators to "remove the crusted sand and shell that covers the hull in preparation for the Hunley's restoration."



Drawing of the H.L. Hunley by R.G. Skerrett

- A Viking burial pit being excavated in Dorset, England contains a collection 54 bodies and 51 skulls, one of which has grooves filed into the front teeth. The pit is believed to be a mass grave of Vikings killed during a raid on Anglo Saxons between AD 970 and 1025. While the exact reason for the filed teeth is still unknown, archaeologists believe "it may have been to frighten opponents in battle or to show their status as a great fighter." According to archaeologist Steve Wallis, "It is very rare that this kind of deliberate dental modification is found in European remains." To learn more about this important discovery read the BBC article here.

The Great Pyramid of Giza

- Archaeologists are now using a robot to investigate some mysterious passageways in the Great Pyramid of Giza. These four narrow shafts located deep inside the pyramid have puzzled archaeologists since their discovery in 1872. Robots previously sent into the shafts showed them ending at limestone slabs adorned with copper pins, believed to be doors. But a recently acquired robot, built by the University of Leeds, is equipped with a camera able to see around corners and fit through small holes, allowing archaeologists to see into the chambers behind the "doors." Images collected by the robot show hieroglyphics painted in red inside one of the chambers and provide glimpses of the back of the copper pins. Archaeologists believe that once deciphered, the hieroglyphics would help explain why the chambers were built. Investigations are expected to continue until the end of the year. Read more about them here.

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